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Redefining the Epigravettian and Epipalaeolithic in the Rock Shelter of Cuina Turcului (the Iron Gates Gorges of the Danube, Romania), with Special Emphasis on Art Objects

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Abstract: The Cuina Turcului rock shelter is located on the Romanian bank of the Iron Gates Gorges of the Danube. Archaeological investigations conducted in the 1960's revealed, in the lower part of the deposit, the existence of two habitation levels, whose cultural definition has changed several times over the years. Due to lithic material features, hard animal materials, C-14 dates and especially personal ornaments and art object, we consider that the first layer belongs to the Epigravettian and the second to the Epipalaeolithic. The richness, diversity and particularities of portable art in the Epigravettian layer I justifies its defining as a regional independent facies, called *Clisurean*.

Key-words: Cuina Turcului, Epigravettian, Epipalaeolithic, portable art, personal objects, Clisurean.

Résumé : ***La redéfinition de l'Épigravettien et de l'Épipaléolithique de l'abri sous roche de Cuina Turcului (le Défilé des Portes de Fer du Danube, Roumanie), avec un regard particulier sur les objets d'art.*** L'abri sous roche de Cuina Turcului est situé sur la rive roumaine du Défilé des Portes de Fer du Danube. Les fouilles archéologiques entreprises dans les années soixante du XX[e] siècle écoulé ont mis en évidence l'existence, dans la partie inférieure du gisement, de deux niveaux d'habitation dont l'identification culturelle a, depuis, été corrigée plusieurs fois. Compte tenu des caractéristiques du matériau lithique, du MDA, des datations C-14 et notamment des parures et des objets d'art, nous considérons que la première couche appartient à l'Épigravettien, alors que la deuxième couche appartient à l'Épipaléolithique. La richesse, la diversité et les particularités de l'art mobilier en particulier provenant de la couche de l'Épigravettien I justifie la définition de celui-ci comme un faciès régional distinct, appelé *Clisurean.*

Mots-clés : Cuina Turcului, Épigravettien, Épipaléolithique, art mobilier, parures, Clisurean.

Introduction

The archaeological investigations in the Iron Gates area were given an unparalleled impetus with the commencement of the construction works of the Hydro-energetic Complex in this region. At that time the "Iron Gates Complex Research Group" was created and, from 1964 to 1971, multidisciplinary investigations were conducted for the entire area of the Danube, including archaeological ones undertaken between Șimian and Moldova Veche, so on a large surface (143 km) which covered the entire area that was to be flooded by the waters of the future storage basin (fig. 1/1-3). Their extent was unprecedented and received great support from a reputable personality, C. S. Nicolăescu-Plopșor, and, very soon, sites attributed to the Palaeolithic were found, which something was new in this area where no such settlement had been known until then (Nicolăescu-Plopșor *et al.* 1968). Of the settlements discovered, some had preserved Epipalaeolithic habitations *sensu lato*: Cuina Turcului, Climente I and II, the Veterani Cave, Veterani Terasă point, Ostrovul Banului, Ogradena Răzvrata, Ogradena Terasă. Unfortunately, many settlements have an uncertain stratigraphic context, while with most of them the

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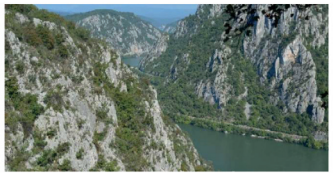
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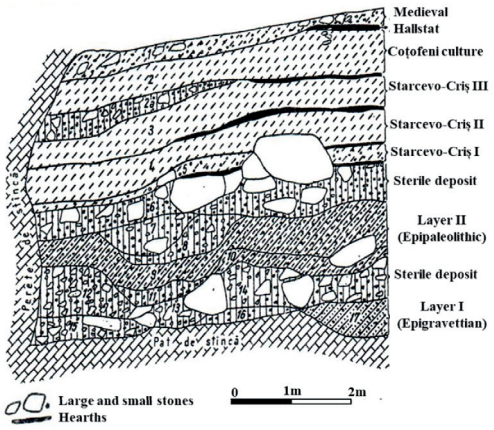

Figure 1 - The Iron Gates Gorges of the Danube and the Cuina Turcului rock shelter. 1-Epigravettian, Epipalaeolithic and Mesolithic settlements of the Iron Gorges; 2-gorges images; 3-the Dubova gulf; 4-the Cuina Turcului rock shelter during a low flow of the storage basin; 5-the Cuina Turcului rock shelter before the filling of the basin; 6-N-NW profile of trench M, sections III and IV (1 - after D. Borić, 2011; 2,3 - photo by N. Grimacovschi; 4 - after A. Boroneanț, A. Bălășescu 2016; 5 - după V. Boroneanț, 1999, fig. 7; 6 - modified after A. Păunescu 2000, p. 340, fig. 136).

Figure 1 - Défilé du Danube des Portes de Fer et abri sous roche Cuina Turcului : 1 - habitats épigravettiens, épipaléolithiques et mésolithiques des Portes de Fer ; 2 - vues sur le défilé ; 3 - baie de Dubova ; 4 - l'abri sous roche Cuina Turcului pendant le bas débit du lac d'accumulation ; 5 - l'abri sous roche de Cuina Turcului avant le remplissage du lac ; 6 - profil N-NO de la section M, sections III et IV (1 - d'après D. Borić 2011; 2, 3 - photos N. Grimacovschi; 4 - d'après A. Boroneanț, A. Bălășescu 2016 ; 5 - d'après V. Boroneanț 1999, fig. 7 ; 6 - modifié d'après A. Păunescu 2000, p. 340, fig. 136).

archaeological materials are not separated according to cultural layers (Păunescu 2000). The only site in which the two Epipalaeolithic layers are well-defined stratigraphically is Cuina Turcului, where Al. Păunescu (1970, 1978, 1989, 2000) conducted accurate excavations and made quite pertinent stratigraphic observations.

The cultural definitions of the two Epipalaeolithic layers of Cuina Turcului have repeatedly changed over time, starting with their being included in a local facies called *Clisurean* (Nicolăescu-Plopșor *et al.* 1965 - p. 408; Boroneanț 2000), then in the Romanello - Azilian (Nicolăescu-Plopșor *et al.* 1968; Păunescu 1970), Epipalaeolithic (Păunescu 1978; D. Borić 2011), Tardigravettian (Păunescu 1989), Tardigravettian of the Mediterranean type (Păunescu 2000), Epigravettian (Bonsall and Boroneanț 2016) and even the Early Mesolithic (Bonsall 2008; Boroneanț 2011). The cultural definition of both layers was done uniformly, even though they are different, at least chrono-stratigraphically. The only author who advocated the existence of clear differentiations between the two layers of Cuina Turcului is D. Srejović (1968). He includes the first layer in the Epigravettian and the second in the Epipalaeolithic. Later, D. Srejović and L. Zagorka (1978) analysed and argued the differences between the two layers of Cuina Turcului, affirming the need to reassess the first layer and include it in a special facies that should have its own name, possibly the name of the site.

The engraved objects of Cuina Turcului have been most frequently invoked to particularise the communities here. Unfortunately, in almost all studies published by authors of those finds (Păunescu 1970, 1978, 2000; Boroneanț 2000), the description of decorations on various art objects is much too general; there is no analysis of details on each of them, and no elaborate technological study which might determine how the engravings were made, what tools were used and explain the *chaîne opératoire* for the decorations on each item (see, for example, Păunescu 1970). The

publication of the doctoral theses of C. Beldiman (2007) on osseous industry and of M. Mărgărit (2008) on art objects was meant to be a step forward. Unfortunately, with the former, the materials are almost impossible to identify, having been included in a regional typology made for the territory of Romania and with an unusable graphics. In the latter case, the art objects did not benefit by an illustration to match the importance of the material.

Viewed as a whole, with no chronostratigraphic separation, the engraved art objects of Iron Gates lose their ability to individualise the communities that were contemporaneous with the Tardiglacial. As a matter of fact, it has been recently suggested that the only solution for their separation would be to dating the items directly with a view to establishing a certain chronological framework (Bonsall 2008; Bonsall and Boroneanț 2016). In this study, we shall try to determine if the two layers of Cuina Turcului belong to the same culture or, on the contrary, if there are sufficient arguments to culturally differentiate them. The engraved art objects will be the highlight of analysis, with focus on identifying the stylistic particularities of engravings in order to determine the symbolic and social characteristics of the communities discovered here. The information resulting from the analysis of art items will be corroborated with the analysis of the existing bibliography regarding other categories of materials found (the lithic material and hard animal material, the mammalian and ichthyologic fauna), which also provides several elements that prompt a cultural differentiation of the two habitations. All this adds to the arguments regarding the existence of an original Epigravettian facies in the Iron Gates area.

1 - Context of discoveries

1.1 - Site context and chronostratigraphy

The 1961 investigations revealed the important settlement of Cuina Turcului (Nicolăescu-Plopșor *et al.* 1965), a well-defined rock shelter, 40 m long and 25 m high, about 450 m downstream of the entrance to Cazanele Mari, at the foot of the Ciucarul Mare massif, (44°35'30»N, 22°15'33"E) (fig. 1/1-3). The shelter, which today lies under the waters of the Iron Gates storage basin, was located at the time of its formation at an absolute altitude of 60 m and 12 m above the Danube level (fig. 1/4-5). The first survey conducted by C. S. Nicolăescu-Plopșor and his collaborators was enough to allow him to draw important conclusions and attempt an attribution that was surprisingly accurate for the stage of the research. The great palaeolithician's intuition made him include two lower layers of the deposit in the Epipalaeolithic, a culture unknown in that area up to that moment. Furthermore, he noted that the traits of this period here were "distinct from those we know around", which prompted him to propose the attribution of the Cuina Turcului layers to a "new culture" he called the "Clisurean culture" with two stages: the Lower and Upper Clisurean (Nicolăescu-Plopșor *et al.* 1965 - p. 408). Moreover, he would observe the possible analogies of the Upper Clisurean with the West-European Azilian, remarking that the discovery at Cuina Turcului of snail shells of Mediterranean origins, such as *Dentalium*, may be an argument for the existence of contacts between the respective cultural areas. At that time, he would assert that there were no significant cultural differences between the two layers, namely the Upper and the Lower Clisurean.

Stratigraphically, the two layers are separated from the Neolithic habitation and from each other by archaeologically sterile levels (Nicolăescu-Plopșor *et al.* 1965, 1968; Păunescu, 1970, 1978, 1989, 2000). The stratigraphic difference is also supported by absolute dating. The few C-14 dates obtained are of real help in specifying their age (tabl. 1) and even in terms of a more precise cultural attribution, in accordance with the accepted European terminology. To avoid possible confusions, some clarifications are necessary. We have attributed layer I, which was initially defined as Epipalaeolithic I, to the Epigravettian (=Clisurean). It developed between 12.600 ± 120 B.P. (Bln. 803) and 11.960 ± 60 B.P. (GrN 12,665). As regards layer II, designated as Epipalaeolithic II at first, we shall continue to refer to it as Epipalaeolithic. Its age is between 10.435±45 B.P. (OxA 19.203) and 10.125±200 B.P. (Bln 802). Therefore, the Cuina Turcului Epigravettian (Clisurean) layer I was contemporaneous with the second part of the Tardiglacial, which would mean that it reached the end of Bölling climatic oscillation (13.300-12.300 B.P.), the cooling during Dryas 2 (12.300-11.800 B.P.) and some part of Alleröd climatic amelioration (11.800-10.800). The Epipalaeolithic II layer was possibly deposited entirely in the cold episode of Dryas 3 (which occurred from 10.800 to 10.000 B.P.). Generally, such attribution of Cuina Turcului layers, which should include Alleröd climatic oscillation and late Dryas, was suggested by Al. Bolomey (1970) as well, based on the study of mammalian fauna. Pollen analysis is too little revealing in this case, as for layer I and layer II only a pollen spectrum is mentioned for each. In the context of C-14 dates obtained after the palynological study, the results may be nevertheless reinterpreted. The fact that the first pollen spectrum is characterised, along with the existence of the *Pinus* genus (the species of which has not been determined), by the significant presence of thermophilic deciduous trees of the mixed oak group (37 %), in which *Tilia* was 23%, is an sign of an indubitable climatic amelioration, which might have been precisely the end of Bölling climatic oscillation, as indicated by C-14 dates as well. But it is harder to explain the second pollen spectrum, to the extent that, curiously enough, it is stated that it was obtained from almost 2 m of sediment accumulated. That is why, in this context, what the authors of the palynological study state should not surprise us: according to them, this spectrum, in which linden reached over 70%, shows that we were in Boreal period. Of course, this is hard to accept considering that the C-14 dates point to the minimum age 10.125±200 B.P. (Bln 802) for the Cuina Turcului layer II. In conclusion, the palynological study of the Cuina Turcului rock shelter deposit, which has often been invoked without careful consideration, should be interpreted with much caution, at least with regard to the Epigravettian and Epipalaeolithic layers.

1.2 - Faunal remains

The fossil fauna was determined by Al. Bolomey (1970, 1973). Between the two layers, there are differences not only in terms of the species represented, but also in the minimum number of individuals. This does not mean that there aren't also common elements. The identified species are: Suids, *Castor fibex, Capra ibex, Rupricapra rupicapra,*

Layer	Depth in m and the context of the sample	The material used for dating	Laboratory and age B. P.
Layer II - Epipaleolithic	Trench M	Human bones, Individual 1, adult, female, left humerus	OxA-19.203: 10.435±45
Layer II - Epipaleolithic	Trench B	Human bones, Individual 2, adult, man?, 25–30 years, left ulna	OxA-19202: 10.350±45
Layer II - Epipaleolithic	3,68 - 3,85 (intermediate A, hearth at the base of the layer)	Wood charcoal, ashes, burnt bones	Bln. 802: 10.125 ± 200
Layer I - Epigravettian (Clisurean)	5,70 - 5,85 (trench Ș, hearth at the base of the layer)	Pine charcoal	GrN. 12.665: 11.960 ± 60
Layer I - Epigravettian (Clisurean)	5,90 - 5,95 (trench B, hearth at the base of the layer)	Pine charcoal	Bln. 803: 12.600 ± 120
Layer I - Epigravettian (Clisurean)	6,20 - 6,40 (trench O, hearth at the base of the layer)	Pine charcoal	Bln. 804: 12.050 ± 120

Table 1 - C-14 datings of the Cuina Turcului Epigravettian and Epipalaeolithic cultural layers.

Tableau 1 - Datations C-14 des couches Épigravettien et Épipaléolithique de Cuina Turcului.

Bos/Bison, Alces alces (elan), Capreolus capreolus, Cervus elaphus, Equus caballus, Canis lupuc, Vulpes vulpes, Ursus arctos, Martes sp., Felis silvestris, Putorius putorius, Lepus europaeus. The most significant species difference between the two layers is the percentage of boars hunted: boar is highly prevalent in layer I (17.7 % MNI) and scarce in layer II (2.3 % MNI). Deer and polecats are identified only in layer II. Furthermore, *Bos/Bison* is much better represented in layer II (14.2 % MNI as compared to 2.2 % MNI in layer I), while in layer I there is a higher percentage of moose and doe. An interesting fact is the large number (and similar percentages) of the two species *Capra ibex* and *Rupicapra rupicapra* in both layers. They are known to be alpine species. Besides, the presence of the species *Capra ibex* in layer II seems to be the tardiest occurrence of this species in Romania. D. Mihailović (2008) notes that the presence of faunal remains belonging to various habitats, forest, steppe and mountain, suggests indirectly that the shelter functioned as a base camp.

In addition to mammals, bird bones and fragments of turtle shell were recovered from the deposit of both layers (Bolomey 1970).

The analysis of fish bones has revealed a large difference between the species caught during the sedimentation of the two layers attributed to the Epigravettian (layer I) and the Epipalaeolithic (layer II). In layer I, 5 species have been determined (plaice, carp, pike, zander, perch), with plaice and zander prevailing. In layer II, 8 species have been identified, plaice and sturgeons (sterlet, Russian sturgeon) being most prevalent. In addition to sturgeons, catfish was also found only in layer II. Following the analysis of catfish bones, it was concluded that some specimens reached 15-40 kg and a length of up to 2 m (Nalbant 1970). In layer II there is an obvious predilection for the fishing of large species, difficult to catch, some of them, such as sturgeons, not being available throughout the entire year (Dinu 2010). Analysing the quantity of fish bones, Al. Bolomey (1970 - p. 39) believes that fishing in layer I was a sporadic occupation, while in layer II it provided about 25-30% of the community food.

1.3 - Anthropological discoveries

The human bones were determined by D. Nicolăescu-Plopșor (1970). In the first layer, only two molars belonging to adult individuals were found. In the second layer, several osteological fragments from four individuals were discovered: a human foetus about 7 and a half – 8 months old, found in trench K, an adult, probably female, under 30 years of age in trench M, two adults, one of whom relatively robust, probably male, in trench B. The female bones in trench M and those of an individual in trench B have been recently dated (tabl. 1).

1.4 - General considerations of the lithic material

The whole lithic assemblage, which is very large, was analysed by Al. Păunescu in several studies (1970, 1978, 2000), using a method based on the inclusion of tools in the type lists established by D. Soneville-Bordes and J. Perrot (1954, 1955, 1956a, b). In his last work about Cuina Turcului, Al. Păunescu (2000) mentions an impressive number of lithic materials found in this site: 28.352 items in the first layer and 44.262 items in the second layer. Of the total amount of discovered items, the percentage of tools is very small: 4,73 % in layer I (1.340 tools) and 4,57 % in layer II (2.022 tools). In both layers, the materials are microlithic, 98 % of them less than 3 cm long. The typology table made by Al. Păunescu (2000) has been translated in a recent article, with some additional brief observations (Bonsall and Boroneanț 2016). A preliminary analysis was carried out by E. H. Dinan (1996), who examined 1.103 items from layer I and 747 from layer II, hence much less than the number provided by Al. Păunescu (2000). However critical we might be of Al. Păunescu's definitions

and method of study applied, apart from his articles and syntheses there is no other analysis of the entire material. As presented, the materials in the two layers reflect an Epigravettian tradition and are similar to those defined for some settlement in the east of the Adriatic Sea (Janković *et al.* 2012; Karavanić *et al.* 2013). That is why, there seems to be no significant difference between the types of tools defined for both layers, as tradition has put its stamp on the general structure. Nevertheless, for some specific Epigravettian types, percentages differ: enscrapers are more numerous in layer II (47,91 % in layer I, 58,11 % in layer II), including unguiform and thumbnail ones; geometric microliths are more frequent in layer I (7,76 % and 3,61 % respectively), particularly the lunates and the triangles as well as the *La Gravette*, *micrograveтte* points and the Azilian points, while backed bladelets in a slightly higher proportion in layer II. Naturally, this may be a consequence of the difference between the way of subsistence and activities practiced in the two layers, but the Epigravettian nature remains in both habitations, more prominent in the first layer, though.

Technically, the percentage of debitage products is difficult to assess accurately in Al. Păunescu's work (2000). But, doing some calculations in the published table, in which tools have not been included, the following general tendencies may be noticed: in layer I the aim of lithic production was to obtain bladelets (4,62%, as compared to 0,14 % blades and 1,52 % flakes), whereas in layer II flakes and bladelets have similar percentages (5,51%, and 4,55 %, as compared to 0,50 % blades). It may be said that, as regards layer I, there is a clearer specialisation of the knapping techniques used. Therefore, this is also reflected in the identified types of tools described above.

1.5 - Osseous industry

Osseous industry has been analysed by C. Beldiman (2007). The items were included in some kind of typology adapted for materials found in Palaeolithic, Mesolithic and Neolithic settlements in Romanian. Unfortunately, the structure of the work makes it almost impossible to identify the materials, as the technical description is global for certain typological categories which, most of the times, comprise materials from various settlements and ages.

The total number of items analysed by C. Beldiman (2007) is 91, including personal ornaments (64 items in layer I and 27 in layer II). Of these, 58 items in layer I and 24 items in layer II are tools, weapons and decorated pieces with uncertain utility (non-utilitarian). Their distribution on the two layers reveals very significant differences in both number and typology.

As with engraved art objects, it can be noticed that the number of bone tools and weapons is larger in layer I. Furthermore, a distinction between the two layers is given by the presence in layer I of several typical fishing tools, a fragment of fishhook (fig. 2/1-8) and two fragments of harpoon with protuberance, given that fishing was a sporadic occupation in this layer, while being important in layer II, as shown by the study of faunal remains. The only items that may be associated to fishing in layer II are two bone "pendants", one of rectangular shape, the other of elongated shape, which may suggest some floats, as we shall try to show further, and a possible rectilinear fishhook (fig. 2/9).

2 - Results

2.1 - Engraved items

2.1.1 - Items discovered in the Epigravettian layer I (Clisurean)

- ***Smoother*** made from a bone flake, with biconvex front smoothed by polishing and usage (fig. 3/1). The proximal part of the tool was not preserved, having old fracture, therefore the current dimensions of the item are 7.9 cm long, about 2.9 cm medium width and an average thickness of 0.8 cm. The blank was shaped on the sides by scraping (fig. 4/3) and on the inner side by axial or oblique scraping and polishing. Scraping marks are quite evident on a large surface (fig. 4/4-5), while in certain areas of the inner side, close to the right edge, they were blurred through polishing (fig. 4/6). The distal, active part of the tool still preserves the marks resulted from scraping, abrasion and obviously polishing on both sides. The upper side of the bone preserves the initial bone structure and was decorated with geometrical motifs. Being an elongated item, the symmetry of the decoration follows the median longitudinal axis, in the sense defined by G. Sauvet (1987) as axial symmetry. Two registers appear to stand out: on the right, longitudinal engravings consisting of double lines, one of which is very deep, with a V-shaped profile, penetrating into the distal part as far as the active front of the tool (fig. 4/7; 5/1); on the left, longitudinal engravings made of series of double lines, with a U-shaped profile, which bend in about 45° towards the proximal part. The setup of the decoration thus aimed to create an area for the engraving of the ladder-shaped decoration, which is in median position. This consists of two vertical lines, united with eight other horizontal ones, with a U-shaped profile (fig. 4/8, 10; 5/2). In fact, it is a vertically oriented rectangle hatched by horizontal lines. The two registers developing on the upper side are separated by a longitudinal double line, which is straight in the distal half and zigzag in the proximal one, with a U-shaped profile and bar code (fig. 4/8-9; 5/3). The last zigzag is so oriented as to provide enough space for the ladder-shaped engraving. All engravings are deep, with diverse profile, U-shaped and less V-shaped and bar code. Their marking is surprisingly firm on most part of the engraved area considering that they were made on bone, with a structure that is rather difficult to work. The fact that longitudinal and particularly zigzag engravings are double, keeping the parallelism and the relatively equal distance along the entire line, fully emphasises the artisan's talent in handling the burin used to make them. On the bottom of the U-shaped engraving one can sometimes see the striae from the burin front (fig. 4/9; 5/3). The stigmata resulting from the preparation of the active front as well as the usage marks are obvious (fig. 5/4-6).

- ***Spatula*** on longitudinal bone fragment, with a slightly convex-concave profile, engraved on the upper face (fig. 3/4). Fragmented both laterally and at the proximal part, the item was initially of larger sizes. In its current state, it seems rather a reworked item, functioning as a spatula or even an awl, if we consider the wear pattern of the sides in the distal area. Its current dimensions are: length – 7.5 cm, medium width – 1.2 cm, medium thickness – 0.5 cm. The lower face still preserves the axial scraping stigmata resulted from shaping, particularly towards the left side and the distal part of the tool. Otherwise, lower face is quite polished, perhaps owing to prolonged use (fig. 6/3).

Figure 2 - Fishhooks from the Epigravettian layer I (1-8) and the Epipalaeolithic layer II (9) of Cuina Turcului. Curved fishhook (1-8): 1, 2 - view of the sides; 3 - convex part; 4 - concave part; 5 - abrasion stigmata; 6 - notches on the convex part meant to provide the fastening of the line; 7, 8 - scraping on the concave and convex parts in the proximal part; rectilinear fishhook (9) (9 - after A. Păunescu 2000) (scale = 1 cm).

Figure 2 - Hameçons provenant de la couche Épigravettien I (1-8) et de la couche Épipaléolithique II (9) de Cuina Turcului. Hameçon courbe (1-8) : 1, 2 - vue des parties latérales ; 3 - partie convexe ; 4 - partie concave ; 5 - stigmates par abrasion ; 6 - encoches dans la partie convexe servant à insérer le fil ; 7, 8 - raclage sur les parties concave et convexe dans la partie proximale ; hameçon droit (9) 9 - d'après A. Păunescu 2000) (échelle = 1 cm).

On the upper face, the tool is engraved in a geometrical style, apparently in keeping with the idea of two registers only that, this time, one register is on the distal part and the other toward the proximal. The deep engravings, with a transition U-V profile (fig. 6/1-2; 4-5), are double incisions, almost perfectly parallel. The register on the distal part consists of linear double engravings, which initially may have been a rectangle delimitating an area in which two geometrical shapes are inscribed. The first is a pentagon, the second is somehow triangular, each having one common side with the vertical line on the right. The spaces inside the pentagon and the triangle are filled with three parallel lines each. A linear engraving fills that particular space. Also in the distal half, very close to the right edge, a vertical double line, which closes at the base with a transversal line, fills the engraved distal half. The function as a tool of this item definitely affected the initial engravings through permanent wear in the active part (fig. 6/1).

The decoration in the proximal half is very complex, four double deeply engraved lines, marked longitudinally, transversally and obliquely sometimes merge into a genuine labyrinth, with angles ranging from 90° to 45°. It is not excluded that the complete shape of engravings, consisting of these geometrical meanders, should have been a decoration known as the "Greek" type (Marshack 1987). Thus, from the middle of the item, a transversal double line is continued on the right side, at an angle of almost 90°, by a similar longitudinal double line. Towards the proximal side it again changes direction to the distal part, this time at an angle of about 45°. From here, it continues in the form of a linear double engraving as far as the transversal line and then it runs parallel to the latter. Thus, the first path of the labyrinth is made (fig. 6/2). The item is destroyed on the left side, which prevents us from knowing if the engraving followed the same course, i.e. if the engraving continued and delimited that particular layout

Figure 3 - Art objects engraved with geometric motifs on bones and antler, Epigravettian layer I (Clisurean) of Cuina Turcului (scale = 1 cm).

Figure 3 - Objets d'art gravés aux motifs géométriques sur os et bois, le couche Épigravettien I (Clisurean) provenant de Cuina Turcului (échelle = 1 cm).

which may have completed the labyrinth ornamentation. As the other details were similar, we may assume that in fact, on the whole, the engraving was a labyrinth, which formed a decoration of "Greek" type. The profile of engravings is deep enough and preserved the same U-V-shaped profile.

- ***Engraved antler plaque*** (perhaps an awl), fragmented, with modest sizes: length – 5.2 cm; medium width – 1.4 cm; medium thickness – 0.5 cm (fig. 3/5; 6/6,8). The lower face was shaped, but there the cancellous structure of the antler is still visible (fig. 6/8). While in the mesial and proximal part the edges are rectilinear, in the distal area they are slightly concave. The point resulted from the contact of the two edges is broken. We do not rule out that it may have continued with a point.

The upper face is engraved with linear double incisions, but not as accurate as the previous items (fig. 6/5). One can easily notice that the artisan did not have the same skilfulness, even though the antler blank is easier to work than the bone (Averbouh 2000). However, it preserves the same style of double lines with U-shaped profile, but not as deep. There are also finer incisions with a V-shaped profile. At the distal part, a triangle was meant to be engraved, but its sides do not meet, most probably due to the artisan's lack of craft. This is also noticeable on the entire decorated surface. The base of the triangle is doubled and the space between the two incisions is filled with eight short vertical lines. The inside of the triangle is, in its turn, covered with nine horizontal incisions intersected by three other inclined incisions, not very deep and with a V-shaped profile, contrasting with the two slightly concave convergent sides with U-shaped incisions. Three series of three incisions which are inclined to the left come off from the base of the triangle. A transversal line closes this space, then splits into a first series of four incisions, followed by a second series formed of three incisions, all inclined to the left as the previous ones, then a third series of incisions that resembles a triangle. The surface is delimited by a double transverse line with U profile, with a number of incisions in that particular space the sense of which is quite difficult to decode. They may be nothing more than some defects, except two series on the right which look like small quadrilaterals each with an incision inside. The proximal part consists of five double lines that appear to have been made by tracing the transverse line, as it often intersects it. The last double line bends to an angle of 45°, but the craftsman's imprecision can be noticed again, as the continuity and parallelism of incisions are missing. Despite these small technical flaws, the item stands out through the complexity of the decoration. As regards the organisation of the decorated area, we believe there are two registers in a transverse symmetry, in the sense that the first register consists of the triangle located at the distal part and the decorations going as far as the double transverse line where vertical double lines, which actually form the second register, start towards the proximal part. The register at the proximal part confers rhythm to the decoration through the repetition of several series of parallel double lines. Transversal symmetry is not commonly encountered with geometric decorations in the Palaeolithic (Sauvet 1987). This item may be an example of an object made by a beginner.

- ***Engraved bone*** of small sizes, whose extremities and one edge are fragmented (fig. 3/6; 6/7,9). It is only 6 cm long, roughly 1.5 cm wide and about 0.7 cm thick. The lower face was arranged by scraping whose stigmata were blurred by polishing (fig. 6/9). The upper side, which preserves the initial structure of the bone surface, is

Figure 4 - Marks resulted from shaping the sides and lower face (1-6) and details of decoration on the upper face and of the polishing in the distal part (7-11) of the smoother, Epigravettian layer I. 1 - lower face; 2 - polishing of the active distal part; 3 - right edge shaped by scraping; 4 - area with traces of axial scraping; 5 - scaping-detail; 6 - area prepared by scraping followed by polishing; 7-11 - details of decoration (scale = 1 cm).

Figure 4 - Stigmates résultant du façonnage des bords et de la face inférieure (1-6) et détails du décor de la face supérieure et du polissage dans la partie distale (7-11) du lissoir, couche Épigravettien I. 1 - face inférieure ; 2 - polissage de la partie distale active ; 3 - le bord du côté droit façonné par raclage ; 4 - zone présentant des traces de raclage axial ; 5 - raclage-détai ; 6 - zone travaillée par raclage suivi du polissage ; 7-11 détails du décor (échelle = 1 cm).

covered with engravings consisting of zigzag double lines located at relatively equal distances. Four zigzags form on one side while a fifth is united with one of the two double zigzags inverted in order to delimitate the space in which a hatched square with three parallel incisions was engraved (fig. 6/7). This may have been the central part of the engraved area, around which the other double zigzag lines would gravitate. The incisions have a V-shape profile, although sometimes these seem quite deep. The blank fragmentation prevents us from intuiting the initial directions of the decoration, but even so the balance given by the parallelism of zigzags around a central point, which might be the hatched square, is remarkable.

- ***Engraved bone fragment***, only 2.1 cm long and 1.0 cm wide (fig. 3/2). The lower face has preserved scraping and polishing marks as well as traces of degradation of the bone structure under the influence of physico-chemical and biological agents present in the site deposit. These processes are also visible on the upper face, with a decoration that consists of five double lines, two of which still preserve the zigzag extension, as if to remind of the organisation of engravings on the previous bone (fig. 3/6).

- ***Engraved bone fragment*** which no longer has any of the edges. Even if its length is about 2 cm, its shape and surface are reduced and irregular (fig. 3/3). Under these circumstances, it is extremely difficult to make technological considerations on the blank. The initial bone structure is to be found on both surfaces, the lower however having been more affected by the biological agents in the soil. On the upper surface one can note a double line and two other similar fragments that are parallel to each other. The incisions are deep, U-shaped and remind, stylistically speaking, of those on the item presumed to be an awl (fig. 3/5; 6/5).

- ***Antler flake fragment***. It is a mesial fragment of red deer antler, with straight profile and rectangular section (fig. 3/7; 7/1,2). At the proximal part, percussion stigmata resulted from breaking off one of the tines are still visible. On the lower face, the antler internal structure can be noted due to its not having been subjected to major shaping interventions. On the right side, which was detached by longitudinal fracturing, grooving marks are visible (Mărgărit 2008). However, the upper face does not preserve traces of processing. Instead, there is a decoration consisting of a zigzag double line, with deep incisions and U-shaped profile, which seems to rest on a linear incision. Under this incision, at the distal part, two convergent lines that are engraved deeper are united by two other more finely scribed incisions. The surface is completed with three parallel double lines, sometimes discontinuous and quiet negligently traced (fig. 7/1).

- ***Bone awl***, longitudinally fragmented on the left edge and at the proximal part (fig. 3/8; 7/3-5), which in the beginning was probably a projectile, as C. Beldiman (2007) also remarks. The two sides are convergent and the blank profile is convex-concave. The right side was shaped by scraping, while the distal part, in fact the active front of the tool, is quite polished by its having been used as an awl. The lower surface was not shaped and the upper one was firstly subject to scraping and then to polishing (fig. 7/3-5). The decoration on the upper surface was done in the same style as that on the antler fragment (fig. 3/7; 7/1), i.e. a

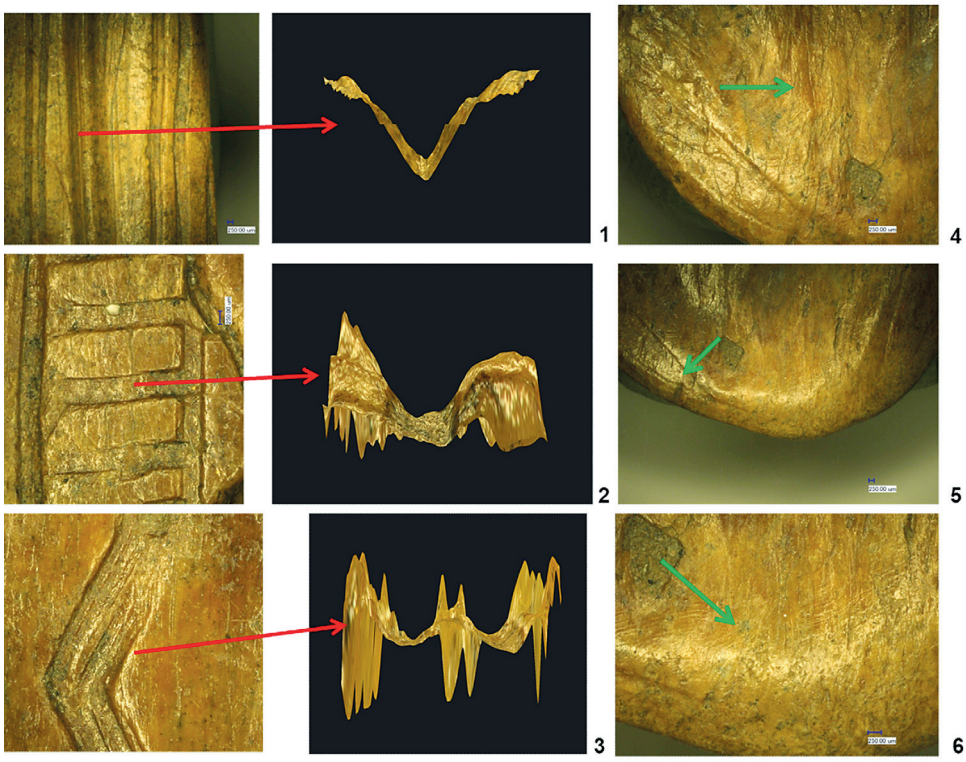

Figure 5 - Types of incisions (1-3) and working stigmata (4-5) and use-wear of the smoother obtained with the digital microscope, Epigravettian layer I. 1 - V-shaped incision on the right side of the upper face (fig. 5/1) (x 30; x100); 2 - U-shaped incision (x50; x100); 3 - bar code incision (x50; x100); 4 - axial scraping in the distal part(x30); 5 - oblique scraping in the distal part (x20); 6 - use-wear stigmata of the tool (x50).

Figure 5 - Types d'incisions (1-3) et stigmates de travail (4, 5) et d'utilisation du lissoir obtenus avec le microscope digital, couche Épigravettien I. 1 - incision en „V" dans la partie droite de la face supérieure (fig. 5/1) (x30; x100) ; 2 - incision en „U" (x50; x100) ; 3 - incision en code de barres (x50; x100) ; 4 - raclage axial dans la partie distale (x30) ; 5 - raclage oblique dans la partie distale (x20) ; 6 - stigmates d'utilisation de l'outil (x50).

zigzag double line which seems to be resting on a V-profile incision. It is even more surprising that the rest of the surface is covered with parallel double lines that appear to be traced in the same inartistic and perhaps untechnical manner (fig. 3/7-8; 7/1, 3-4).

The resemblance of decorations on two different blanks, i.e. antler and bone, is important if we consider that the two raw materials behave differently in the sense that engraving on bone is much more difficult to do than on antler (Averbouh 2000). The bone blank, in this case, is a tool, namely an awl, transformed from a point. Unfortunately, there is no way to know if the antler blank was a utility object in order to see if the zigzag decoration, in combination with parallel double lines, was preferred on certain tools, possibly carrying a particular significance.

In the middle of both items, particularly on the bone awl, the engravings are faded, probably due to manipulation by the respective communities, the way in which objects were held in hand. This suggests long-standing use.

- ***Fragment of engraved bone*** (fig. 7/6-11). This item has been also published as a segment of hyoid bone with a superficially modified anatomical morphology, decorated with axially disposed zigzag double lines and short transverse double lines (Beldiman 2007). The bone blank is fragmented at both ends. The bone dimensions are: 6 cm long, about 1.5 cm wide and 0.7 cm thick. The upper face did not undergo significant transformations, as the engravings that cover it are made on the initial bone surface. The decoration falls under the specific Cuina Turcului Epigravettian style, more specifically double lines, but this time they are rather curved than zigzagged, engraved deep, with U-shaped profile.

The left longitudinal line, intersected by six parallel series of two incisions each, is similar to an engraving defined as a festoon (Chollot-Varagnac 1987) or as a *fil barbelé* (d'Errico and Vanhaeren 2000). The festooned line in this case is a kind of boundary of a series of other incisions.

2.1.2 - Items discovered in the Epipalaeolithic layer II

The Epipalaeolithic art objects are not as numerous and do not even rise to the same level of technical and artistic achievement (fig. 8). The only exception is a phalange, interpreted, ever since its discovery, as suggesting a human figurine (Păunescu 1970).

- ***Engraved horse phalange***. It is different from the other art objects in this layer in terms of the manner of execution of the engravings, resembling the style which is so common in the Epigravettian layer, in which the organisation of decoration is based on double lines, with deep incisions with generally a U-shaped profile and geometric shapes that have the inner space covered with horizontal lines (fig. 9).

According to Alexandra Bolomey's observations (1970), the item is represented by the phalange I, probably left posterior, of a wild horse, which underwent some anthropic interventions: for example, the proximal and distal edges on the plantar face and the surface of ligamentous insertion on the plantar face, which were attenuated through polishing, while distal tuberosities were erased (Păunescu 1970, 2000). The entire item was shaped before engraving and the traces of an axial scraping are still visible particularly at the proximal part of the object.

Figure 6 - Details of engraving on the upper face and of preparation by scraping of the lower face of the spatula (1-5), details of engravings on the antler plaque (maybe awl) (6, 8) and on the bone flake (7, 9), Epigravettian layer I. 1, 2, 6, 7 - the upper faces; 3, 8, 9 - lower faces (1-3, 6-9 scale = 1 cm; 4, 5 - images obtained with the digital microscope; 4=x20; 5=x100).

Figure 6 - Détails des gravures sur la face supérieure et d'aménagement par raclage de la face inférieure de la spatule (1-5), détails des gravures sur la plaquette en corne, possible poinçon (6, 8), et sur l'éclat en os (7, 9), couche I Épigravettien. 1, 2, 6, 7 - les faces supérieures ; 3, 8, 9 - les faces inférieures (1-3, 6-9 échelle = 1 cm ; 4, 5 - images obtenues à l'aide du microscope digital; 4 = x20 ; 5 = x100).

On the plantar surface, the decoration is the most complex and elaborate. A central rhombus, delimited by deep double lines, is filled with 10 horizontal incisions. From its apices, towards the distal and proximal part, angles open up and, in turn, are filled with other smaller and smaller angles, with parallel sides, thus covering the whole space. In the distal part there are four angles, while six others are at the proximal part. This type of decoration at the distal and proximal part may be considered *chevron*. All engravings are deep and U profile. One of the right sides of the rhombus has four transverse incisions between the two lines that delimitate it and three and two similar incisions at

Figure 7 - Antler flake fragment and bone awl with zigzag engraving (1-5) and segment of bone decorated with axially disposed zigzag double lines (6-11), Epigravettian layer I. 1, 3, 4, 6 - the upper faces; 2, 5, 7 - lower faces; 8, 9, 11 - working stigmata resulted from scraping on the lower face; 10 - area shaped by abrasion (scale = 1 cm).

Figure 7 - Fragment d'éclat en bois et lissoir en os gravés en zig-zag (1-5) et segment d'os décoré avec doubles lignes, disposition axiale en zig-zag (6-11), couche Épigravettien I. 1, 3, 4, 6 - les faces supérieures; 2, 5, 7 - les faces inférieures ; 8. 9 11 - stigmates de façonnage par raclage sur la face inférieure ; 10 - zone modifiée par abrasion (échelle = 1 cm).

the opposite sides. Technologically, the *chevron* decorations started with tracing the external sides in the distal part and probably the other sides of the angles inside. In the second stage, the inner delimitation line of the rhombus was traced, being continued by the outer line of the angle in the proximal part. In the third stage, the outer line of the rhombus was completed and in the fourth stage the horizontal lines inside the rhombus were made. In the fifth stage, there was an attempt to fill the space between the two incisions representing the rhombus sides (fig. 9/7).

On the dorsal surface there are only nine parallel incisions with U-shaped profile at the distal part. The rest of the space on the sides of the phalanx and the one left empty on the plantar and dorsal face are engraved with series of two short incisions each, with V profile, slanting and aligned in longitudinal rows.

The engraving of the central rhombus, from which the angles traced through parallel lines on the plantar face of the nine parallel incisions form on the dorsal part, as well as the covering of the entire plantar surface with incisions give a particular aspect and balance to the entire ensemble.

- ***Carved bone*** of plano-convex section (fig. 10). The profile is straight and at mesial level the edges are rectilinear, converging to the distal part; then follows a short convex part the convergence of which is interrupted by a concavity that has been interpreted as a former biconical perforation intended for suspension. This may have been fractured and abraded.

Figure 8 - Engraved bones in the Epipalaeolithic layer II of Cuina Turcului. 1-engraved rib; A-U-shaped profile of incisions (x100); 2-mesial fragment of engraved bone; 3-bone mesial fragment with net-shaped engravings; 4-longitudinally fractured bone fragment with a few incisions on one side; 5-detail of dot-like engravings on the engraved bone mesial fragment (x20); 6-detail of engravings on the bone mesial fragment with net-shaped engravings (3) and abrasion stigmata resulted from the retouching of the surface (x50) (A; 5, 6 images obtained with the fibre optic digital microscope) (2-4 scale = 1 cm)

Figure 8 - Os gravés de la couche Épipaléolithique II de Cuina Turcului. 1 – côte gravée; A – profil en „U" des incisions (x100); 2 – fragment mésial d'os gravé; 3 – fragment mésial en os aux gravures en réseau ; 4 – fragment d'os fracturé en longueur avec des incisions sur l'une des faces ; 5 – détail des gravures ponctuelles sur le fragment mésial d'os gravé (x20) ; 6 – détail des gravures sur le fragment mésial d'os avec des gravures en réseau (3) et stigmates de l'abrasion effectuée pour la correction de la surface (x50) (A; 5, 6 – images obtenues moyennant le microscope digital à fibre optique) (2-4 – échelle = 1 cm).

The current dimensions of the item are: 8.93 cm long, maximum width of 1.9 cm and medium thickness of 0.56 cm. The blank was probably regularised, especially in the distal area, where the initially straight profile was narrowed down through scraping and sawing. Enhanced polishing later applied completely erased the stigmata resulted from previous actions (fig. 10/3-4). On the upper face, in the proximal part, there is a fragment of decoration consisting of two relatively parallel lines, transversally arranged, joined by parallel inclined lines, subsequently traced by a single, downward stroke, as can be observed by the digital microscope. The incisions, though quite superficial, have a symmetric or asymmetric U-shaped profile in a 3D image (fig. 10/5).

As early as 1968, C. S. Nicolăescu-Plopșor would draw attention to this item, which he considered to be a human figurine (Nicolăescu-Plopșor *et al.* 1968). Later studies labelled it in various other ways: bone spatula (Păunescu 1970), bone object (Păunescu 1978), portable art object (Păunescu 2000), item with geometric decoration (Boroneanț 2000), "elongated oval bone plaque (spatula)" (Beldiman 2007 - p. 152), "pendant that fractured and could still be suspended by means of a different fastening system, facilitated by the distal extremity morphology" (Mărgărit 2008 - p. 87).

The sizes and shape of the item, achieved through specific shaping, the very slim profile and extremely fine polishing on both surfaces prompt us to make further considerations on this object which has a particular morphology and other purposes than those assessed so far. No doubt, the fracturing of the item hinders the reconstruction of the initial shape to a great extent (fig. 10/6). Nevertheless, we estimate that, morphologically, it may be the carved outline of a fish, quite similar to a Magdalenian pendant from Marsoulas (Citerne and Chane 2005-2006 - p. 73, fig. 4/2) (fig. 10/7). What has been interpreted as the head of an anthropomorphic representation and the broken and remade hole might actually represent the fish tail. Its functionality is hard to guess. Starting from the idea that the item is a utility object, it may have served as a float or even lure, since at one end there was a hole for suspension, more precisely at the end of the fish tail (Cleyet-Merle 1990).

At the same time, we do not rule out the possibility that, in certain circumstances, the item should have represented a suspended ornamental object. It is however harder to accept its function as a spatula due to its thickness, which is 0.56 cm at most, and thus it probably did not provide the resistivity required for such operations. Furthermore, had it been a spatula, it should have had specific stigmata.

A representation which morphologically resembles the Cuina Turcului Epipalaeolithic item appears to be that of the Pendo Magdalenian (Barandiarán 1994).

- ***Engraved rib***, fragmented, with curved profile and of biconvex section (fig. 8/1). Current dimensions are: 15.82 cm long, at most 3.18 cm wide and medium thickness of 1.54 cm. There are no stigmata to indicate the preparation of the blank with a view to making a tool out of it. The only anthropic evidence is the five series of incisions aligned on one of the surfaces, with U-shaped profile (fig. 8/A), consisting of 4, 4, 3, 4, 4 short lines (4.0-6.7 mm long), parallel and tilted with respect to the rib axis (fig. 8/1a). On the other surface, the incisions do not appear to comply with a certain order, are shorter and at various distances (fig. 8/1b).

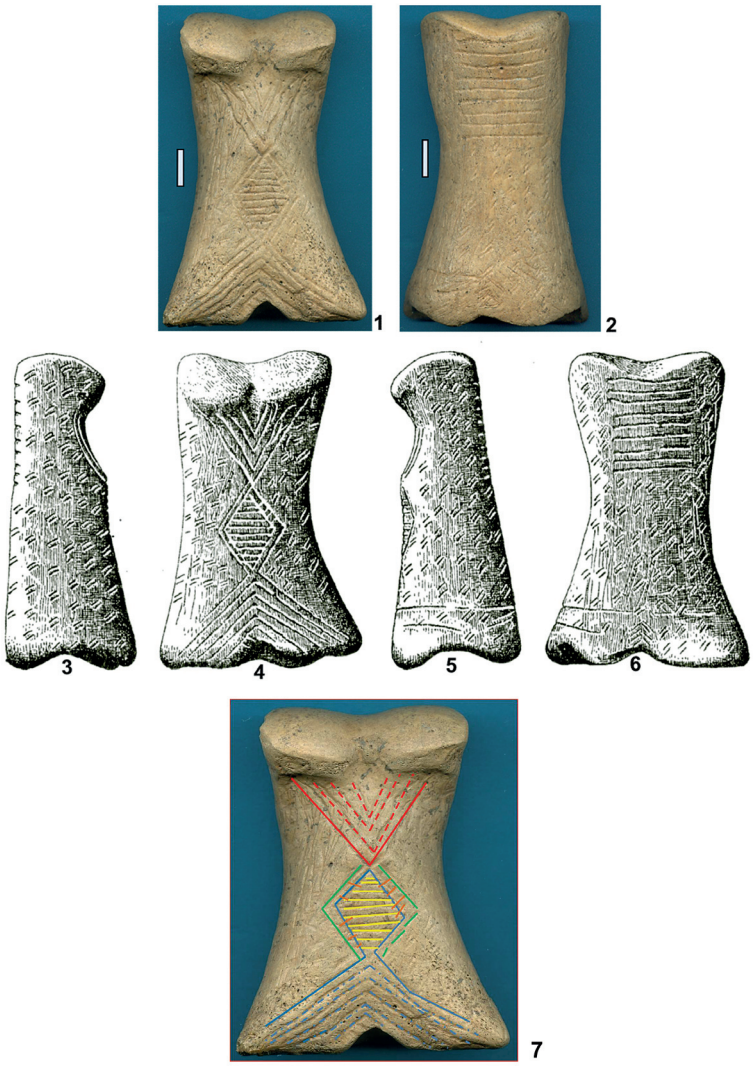

Figure 9 - Horse phalange with complex engravings from the Epipalaeolithic layer II (1, 2 front-back photo images; 3-6 drawing of engravings on all sides) and order of tracing the main incisions on the plantar face of the phalange (7): phase 1 = red (the interrupted lines followed the continuous ones); phase 2 = blue (dotted lines followed the continuous lines); phase 3 = green; phase 4 = yellow; phase 5 = brown (3-6 after V. Boroneanț 2000) (scale = 1 cm).

Figure 9 - Phalange de cheval aux gravures complexes de la couche Épipaléolithique II (1, 2 – images photos face-dos ; 3-6 – dessin aux gravures sur tous les côtés) et ordre de traçage des principales incisions sur la surface plantaire de la phalange: phase 1 = rouge (lignes discontinues suivant aux celles continues); phase 2 = bleu (ligne-point suivant aux ceux continues); phase 3 = vert; phase 4 = jaune; phase 5 = marron (3-6 – d'après V. Boroneanț 2000) (échelle = 1 cm).

- ***Mesial fragment of engraved bone***, of small sizes: length – 2.71 cm; maximum width – 1.22 cm; maximum thickness – 0.86 cm. The blank probably originated from a rib that was fractured inclusively on one of the faces (fig. 8/2). The decorated surface underwent superficial polishing, while the engravings consist of very short dot-like incisions with U-profile (fig. 8/5). Series of 4-5 parallel rows sometimes intersect in order to create a decoration that, in its own way, is original, especially since the item was ochre stained.

- ***Mesial fragment of bone with net-shaped engravings***, straight profile and, because one of the surfaces is broken, of convex-concave section. Its dimensions are small: length – 3.24 cm; maximum width – 1.09 cm; medium thickness – 0.75 cm (fig. 8/3). Following the fracturing of one side, the edges were shaped by axial scraping. The upper surface was transformed by abrasion for the net-shaped decoration (fig. 8/6).

The decoration was made by intersecting two networks of more or less parallel incisions, oblique with respect to the item axis, which created quadrilateral or rhombus shapes on the bone surface (fig. 8/6). By means of a digital microscope, it has been noted that most of the incisions are right-left upward oriented, with returns, accidents and parasites striations along their trajectory. Even if the incisions are superficial, their profile is symmetric or asymmetric U-shaped.

- ***Superficially engraved, transversally and longitudinally fragmented bone*** has six incisions on one surface that may be considered casual. Under these circumstances, it is rather difficult to include this item in the category of art objects (fig. 8/4).

2.2 - Personal ornaments

2.2.1 - Personal ornaments in the Epigravettian layer I

Layer I has revealed a pendant made on a red deer antler mesial fragment with converging rectilinear edges and the upper surface prepared by axial scraping (fig. 11/1), which preserves fairly well the perforation intended for suspension

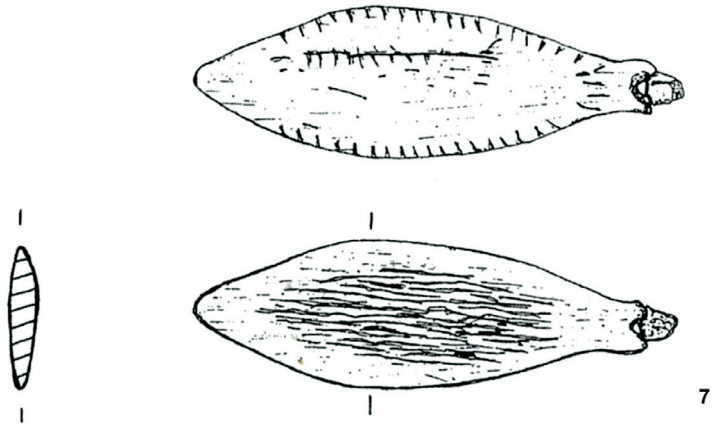

Figure 10 - Carved bone that may represent a fish. 1 engraved upper face; 2-lower face; 3, 4 working details; 5-decoration detail; 6-reconstruction; 7 - fish-shaped Magdalenian pendant from Marsoulas (3-5 images obtained with the fibre optic digital microscope; 7- after P. Citerne, B. Chane, 2005-2006 (1, 2 scale = 1 cm)

Figure 10 - Os découpé représentant probablement un poisson. 1 – face supérieure gravée ; 2 – face inférieure ; 3, 4 – détails de travail ; 5 – détail sur le décor ; 6 – reconstitution ; 7 – pendentif magdalénien en forme de poisson de Marsoulas (3-5 – images obtenues à l'aide du microscope à fibre optique ; 7 – d'après P. Citerne, B. Chane, 2005-2006 (1, 2 – échelle = 1 cm).

(fig. 11/2). The pendant dimensions are: 6.7 cm long, medium width of 2.0 cm and 0.6 cm thick. The upper face is engraved with 9 incisions which are deep enough, tilted, parallel and arranged at relatively equal distances, with V-shaped profile (fig. 11/1). This suspended object was surprisingly neglected in older publications, without being included in the category of possible ornaments of Cuina Turcului (Păunescu 1970, 1978, 2000; Boroneanț 2000). It is C. Beldiman and D.-M. Sztancs (2006, 2010) who described it as a pendant for the first time.

Also, in this layer, Al. V. Grossu (1970) identified a fragmented shell of *Dentalium* sp. only 1 cm long and with a maximum diameter of 0.5 cm and minimum of 0.4 cm (fig. 11/9). According to Al. V. Grossu (1970), the *Dentalium* sp. is a fossil specimen collected from the Danube alluviums and the tributaries which have affected the deposits or the outcrops where the species is found. The large sizes of the sample uncovered at Cuina Turcului would exclude its provenance from the present-day Mediterranean Sea.

The collection of perforated teeth in this layer is numerous and varied (fig. 12). 13 teeth from six animal species have been found (fig. 12/1-13). The perforated teeth belong to the following species: a boar lower incisor (fig. 12/1), a beaver incisor (fig. 12/2), a bovid incisor (fig. 12/3), a herbivore incisor (fig. 12/4), a wolf incisor (fig. 12/5) and eight red deer canines (fig. 12/6-13).

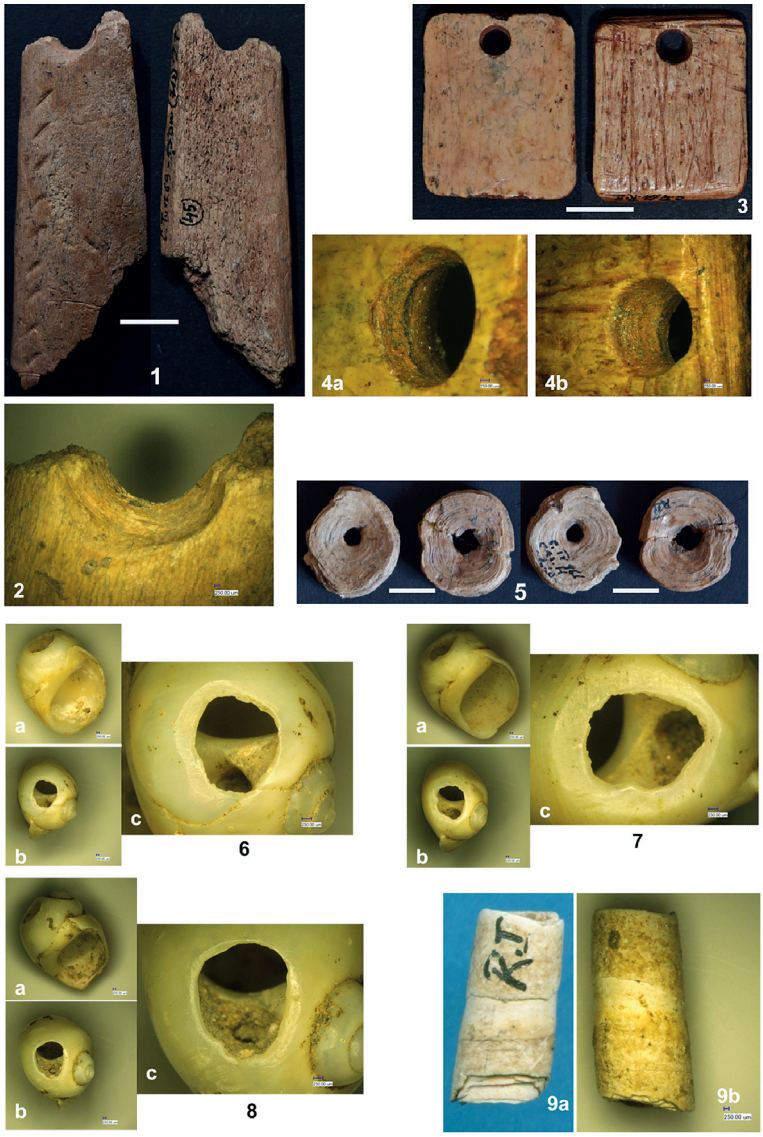

Figure 11 - Pendants and beads from the Epigravettian layer I (Clisurean) (1-2) and from the Epipalaeolithic layer II (3-5), Lithoglyphus apertus perforated shells (6-8) from the layer II Epipalaeolithic and shell of Dentalium sp. (9) in the layer I Epigravettian. 1-engraved red-deer antler; 2-detail of the antler pendant perforation (x20); 3-lower and upper face of the bone "pendant"; 4a- detail of perforation from the upper face (x50); 4b- detail of perforation from the lower face (x30); 5-fish vertebrae with hole in the middle; 6-8: a-aperture; b-perforation position; c-detail of perforation (a-b=20x; c=50x); 9: a-photo image; b-microscope image x20 (6-8; 9b images obtained with the digital microscope) (1, 3, 5 – scale = 1 cm) (6-9 modified after M. (Sandu) Mărgărit, 2008).

Figure 11 - Pendentifs et perles de la couche Épigravettien I (Clisurean) (1, 2) et la couche Épipaléolithique II (3-5), coquilles perforées de Lithoglyphus apertus (6-8) de la couche II Épipaléolithique et coquille de Dentalium sp. (9) de la couche I Épigravettien. 1 – pendentif gravé de bois de cerf ; 2 – détail sur la perforation du pendentif en bois de cerf (x20) ; 3 – face inférieure et supérieure du « pendentif » en os ; 4a – détail de la perforation vue de la face supérieure (x50); 4b – détail de la perforation vue de la face inférieure (x30) ; 5 – vertèbres de poisson portant au centre un orifice ; 6-8 : a – aperture ; b – position de la perforation ; c – détail de la perforation (a, b = x20; c = x50) ; 9 : a – image photos ; b – images microscope x20 (2, 4, 6-8 images obtenues à l'aide du microscope digital) (1, 3, 5 – échelle = 1 cm) (6-9 modifié d'après M. (Sandu) Mărgărit, 2008).

The red deer teeth are much better preserved than the teeth of other species. Only one red deer canine is broken in the upper part of the hole located at the tooth root (fig. 12/11). The occurrence of the deer teeth in the Epigravettian layer I is all the more important as this animal was not identified in the fauna analysed by Al. Bolomey (1970, 1973), so it is not among the hunted animals.

As regards the technological aspects of hole-making of the deer teeth, sufficient stigmata have been preserved to prove the preparation of that particular area located at the tooth root prior to the drilling proper, generally by circular motion, usually more obviously from one face, while on the opposite face only the regularisation of the hole was performed. The following technological actions can be distinguished: scraping on both faces (fig. 12/6 ; fig. 13/1), abrasion on one face and deep rotating motion on the opposite (fig. 12/7 ; fig. 13/2), perforation from both faces without a special preparation of the surface (fig. 12/8 , 16 ; fig. 13/3), deep scraping on both faces (fig. 12/9 ; fig. 13/4), perforation on both faces (fig. 12/10 , 13 ; fig. 13/5) and perforation by rotating a lithic tool from one face of the blank (fig. 13/6). The boar lower incisor (length – 2.9 cm, medium width – 0.7 cm, medium thickness – 0.3 cm) (fig. 12/1) has not preserved scraping stigmata, but most likely the drilling proper, performed by rotating a lithic tool at a slight angle, was preceded by a local preparation (fig. 13/7). The beaver incisor (fig. 12/2), the perforation of which is mostly destroyed, preserves obvious scraping traces on one face (fig. 13/8). The bovid incisor was fractured longitudinally, only one worked face is preserved, which points out that drilling was done by rotating a lithic tool at an angle (fig. 13/9). The herbivore incisor is broken longitudinally, has the upper part of the hole destroyed, and we cannot say much technologically speaking. On the other hand, before drilling, the wolf incisor (length – 2.9 cm, medium width – 0.7 cm, medium thickness – 0.3 cm) (fig. 12/5) underwent preparation marks on both faces and even scraping on one face near the root end (fig. 13/10). Mostly red deer canines and boar and wolf incisors have elongated perforations due to wearing by suspension, just as deer canines are often highly polished on both sides probably due to the contact with the clothing.

Figure 12 - Personal ornaments from perforated teeth from the Epigravettian layer I (Clisurean) (1-boar lower incisor; 2-beaver incisor; 3 - bovid incisor; 4-herbivore incisor; 5-wolf incisor) and from red deer canines in the Epigravettian layer I (Clisurean) (6-13) and the Epipalaeolithic layer II (14-16) (scale = 1 cm).

Figure 12 - Parures en dents perforées de la couche Épigravettien I (Clisurean) (1 – incisive inférieure de sanglier ; 2 – incisive de castor ; 3 – incisive de bovidé ; 4 – incisive d'herbivore ; 5 – incisive de loup) et des canines de cerf de la couche Épigravettien I (Clisurean) (6-13) et le couche Épipaléolithique II (14-16) (échelle = 1 cm).

2.2.2 - Personal ornaments in the Epipalaeolithic layer II

A rectangular bone item, of plano-convex section and with a hole on the distal side, near the middle of it, was interpreted as a pendant (fig. 11/3) (Păunescu 1970, 1978, 2000; Beldiman et Sztancs 2006; Mărgărit 2008). The object is 2.5 cm long, 2.1 cm wide and 0.4 cm thick. Its blank was worked from a larger bone because the stigmata resulted from cutting through transversal sawing and bending are still visible on the proximal and distal parts. The initial bone surface has been preserved on one surface, while the other was superficially polished and preserve a few scraping traces (vertical subparallel or intersecting lines). The perforation was made mainly from the internal part of the bone and the relatively conical shape of the hole are preserved (fig. 11/4b).

The perforated bone of Cuina Turcului (fig. 11/3) has analogies, we might even say up to sameness, with two pendants found at Vlasać in Serbia, on the right bank of the Danube in the Iron Gates area, a little upstream from the

Figure 13 - Perforation technology for deer canines (1 - scraping on one face and percussion on both faces; 2 - abrasion on one face and deep rotating motion on the opposite face; 3 - rotating motion from both faces, without a special preparation of the surface; 4 - deep scraping on both faces; 5 - percussion on both faces; 6 - percussion by rotating a lithic tool from one direction only) and method of perforating teeth of various mammal species in the Epigravettian layer I (7-10).

Figure 13 - La technologie de la fabrication de la perforation pour les canines de cerf (1 – raclage sur une face et percussion sur les deux faces ; 2 – abrasion sur une face et mouvement rotatif profond sur la face opposée ; 3 – mouvement rotatif des deux faces, sans préparation préalable de la surface ; 4 – raclage profond sur les deux faces ; 5 – percussion sur les deux faces ; 6 – percussion moyennant la rotation d'un outillage lithique d'une seule direction) et façon de fabrication des perforations des dents chez les différentes espèces de mammifères de la couche Épigravettien I (7-10).

Cuina Turcului rock shelter (fig. 1/1). One of the pendants was discovered in the Vlasać I level (about 2.8 cm long and 2.0 cm wide) and the other in the Vlasać II level (about 2.5 cm long and 1.8 cm wide) (Srejović and Letica 1978), but the layers in which they were found are attributed to rather different cultural and chronological aspects. In terms of C-14 dating, the Cuina Turcului Epipalaeolithic is dated between 10.435 ± 45 B.P. and 10.125 ± 200 B.P. (tabl. 1). The Vlasać I-II levels, according to older dating, developed between 7.900 - 6.790 B.P. (Srejović and Letica 1978),

while recent dates are contemporaneous with the period between 8.231 ± 36 and 7.035 ± 40 B.P. (Borić *et al*. 2014). This presupposes a gap of at least 2.000 years between the layers of the two settlements. It is possible that these items are not ornaments but utility objects, and in this case, we do not exclude that the so-called pendants should have functioned as floats used for fishing. The morphology of these particular items was determined by their functionality, which may have been similar in different periods of time. That would make it easier to explain the resemblance of the two objects of Cuina Turcului and Vlasać, considering the significant age difference between them. Except for the hole for suspension, the two items are devoid of any engraving on their surfaces, which may be an argument in favour of their having the floating function.

The functionality and importance of such items as floats was established by J.-J. Cleyet-Merle (1990) and the analogies with the Iron Gates objects are quite numerous, especially in the Mesolithic of Norway (Bergsvik and David 2015).

The Epipalaeolithic layer II has revealed two circular fish vertebrae, of biconcave section, with the diameters of 2.7 cm and 2 cm respectively, each with a hole in the middle of 0.5 and 0.4 cm. They are believed to have been used as beads or for adornment, possibly of clothes. One of them preserves fairly well the use-wear resulted from its use by suspension, but the second specimen was subject to post-depositional processes which affected it, including the perforation area (fig. 11/5).

The most numerous ornaments in this layer are represented by snail shells attributed to various species (Grossu 1970):

- *Lithoglyphus apertus* – three specimens with the maximum diameter of 1.1 to 2.0 cm (fig. 11/6-8). The hole was made by abrasion, while the last operation was the drilling and shaping with a lithic tool, by a semi-revolving motion. The diameter of holes is between 3.4 and 4.5 mm.

- *Lithoglyphus naticoides*, through the 37 samples, is the best-represented species in the Epipalaeolithic II layer of Cuina Turcului (fig. 14/A, B). The maximum diameter of the shells is between 1.1 and 0.6 cm, while the diameter of holes varies between 2 and 5 mm. The hole was made by pressure from the inside of the shell, then by intervening from the outside using an implement in a semi-revolving motion. Two of the shells have two holes each (fig. 14/A, 30-31). Wear stigmata resulted from the prolonged use by suspension of shells are noticeable on most samples. As regards this species, we assume that it was gathered from the gastropod fauna existing in the Danube River Basin.

- *Nassa (Cyclope) neritea* is represented by three specimens with maximum diameter between 1.2 and 0.9 cm and the hole diameter around 4 mm (fig. 15/1-3). The hole was made by using indirect percussion or pressure from the inside of the shell. With all samples, the perforation is highly altered by the prolonged suspension.

- A single sample is attributed to the *Zebrina detrita* species (fig. 15/4), with a maximum diameter of 1,1 cm. The hole was made by indirect percussion or pressure from the inside.

- As regards the *Theodoxus* genus, Al. V. Grossu (1970) mentions two species: *T. transversalis* and *T. danubialis*. Six specimens of the two species, with the maximum diameter between 1.0 and 0.8 cm, have been retrieved (fig. 15/5-12). The hole was made both by pressure from the inside and by diffused percussion in the upper part of the shell. It is not excluded that both techniques should have been applied on the same sample.

With most shells described above, the hole was made in the middle of the umbilicus, i.e. on the last anfract or whorl. It is near the suture between the umbilicus and the preceding whorl. As previously mentioned, with all specimens, the holes have obvious traces of deformations resulted from prolonged wearing.

The two *Theodoxus* species are certainly local, as the *T. transversalis* samples have been recovered at the confluence of the Cerna river with the Danube and at Drobeta-Turnu Severin, while *T. danubialis* has been gathered at Moldova Veche and Mraconia, i.e. the Danube Gorges area at the Iron Gates (Negrea 1994).

The *Zebrina detrita* is a pulmonate gastropod whose habitat is on the calcareous cliffs flanking the Danube in this area, whence it easily reaches the alluvial deposits on the banks of the great river. The *Nassa (Cyclope) neritea* is of marine origin and the specimens brought to the settlement are fossil forms existing in the geological deposits nearby. Together with the two *Theodoxus*, they may have been dislocated from the Levantine deposits outcropping in the Danube hydrographic basin.

With regard to the personal ornaments made of teeth, only three red deer canines have been found in the Epipalaeolithic layer II (fig. 12/14-16).

As for the deer teeth discovered in both layers of Cuina Turcului, C. Beldiman (2004) mentions that, of the 12 specimens at his disposal, eight are male and four female, whereas six are on the right side and just as many on the left. In relation to our study, in which we mention only 11 samples, the twelfth deer canine may be precisely that which is considered by the author to lack exact stratigraphic attribution.

The analysis of ornaments reveals significant differences between the two layers and this is all the more important as this category is represented by personal objects with great power to characterise and particularise groups. For ornaments in layer I attributed to the Epigravettian, teeth of several animal species were preferred, while in the Epipalaeolithic layer II shells were chosen. Moreover, the larger number of pierced red deer teeth in the Epigravettian I layer, as compared to the other species and given that deer has not been identified among the hunted animals, grant special status to this category of personal ornaments of this period.

Conclusions and discussion

Art objects found at Cuina Turcului, with decorations made on bone or antler blanks, have been generically included in the incised geometric style (Păunescu 1970, 1978, 2000) or the geometric and abstract style with no connection with the naturalistic style of the Upper Palaeolithic (Boroneanț 2000).

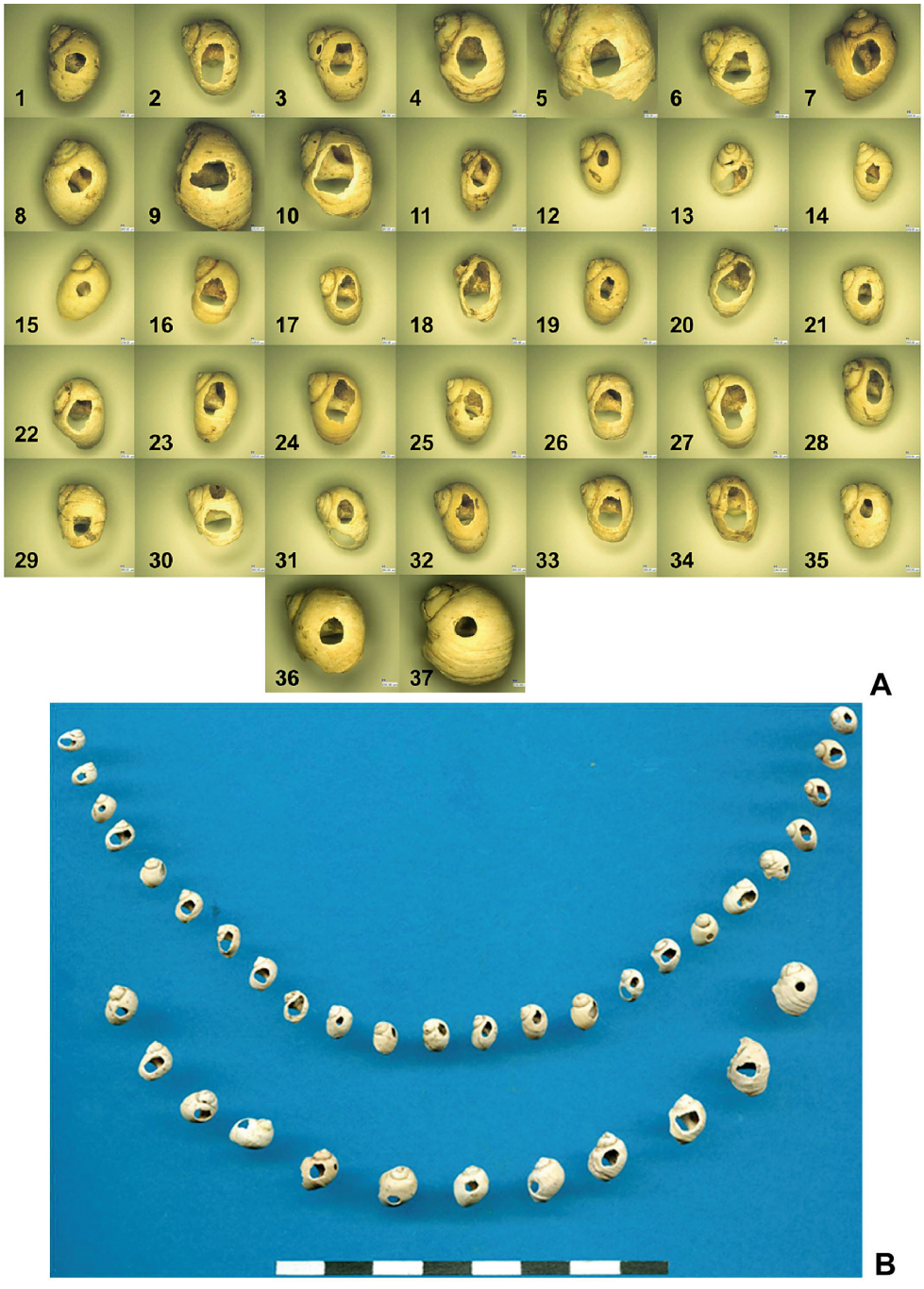

Figure 14 - Lithoglyphus naticoides perforated shells from the Cuina Turcului, Epipalaeolithic layer II (x20) (A) and the reconstruction of a supposed necklace from Lithoglyphus naticoides shells (B) (A - modified after M. (Sandu) Mărgărit, 2008; B-after M. Mărgărit 2008).

Figure 14 - Coquilles perforées de Lithoglyphus naticoides de la couche Épipaléolithique II de Cuina Turcului (x20) (A) et reconstitution d'un possible collier fait en coquilles de Lithoglyphus naticoides (B) (A - modifié d'après M. (Sandu) Mărgărit, 2008 ; B – d'après M. Mărgărit 2008).

These aspects revealed by the archaeological excavations in layers I and II of Cuina Turcului were apparently quite important in the initial stage of the site research for comparing these cultures with the so-called Romanello-Azilian in Italy, the Pyrenees, the Périgord etc.

Globally, the geometrisation of art decoration at the end of the Upper Palaeolithic is not a particular trait of a region. Geometrisation as form is specific to various cultural aspects (fig. 16). In the Russian Plain, where geometrisation is much more expressive, abstract motifs could have a symbolic function and represented an original form and a regional cultural aspect comparable to the role of the realistic animal images of the Magdalenian in Western Europe (Marshack 1987). Furthermore, it is also exaggerated to consider that geometrisation is characteristic only of culture developing during the Tardiglacial and in the early Holocene, because it had been present long before (Iakovleva 2015).

In an attempt to explain the long-distance relationships and the Epigravettian social networks of settlements in the Balkans and Italy, D. Borić and E. Cristiani (2016) invoke the similarities between the engravings found at Cuina

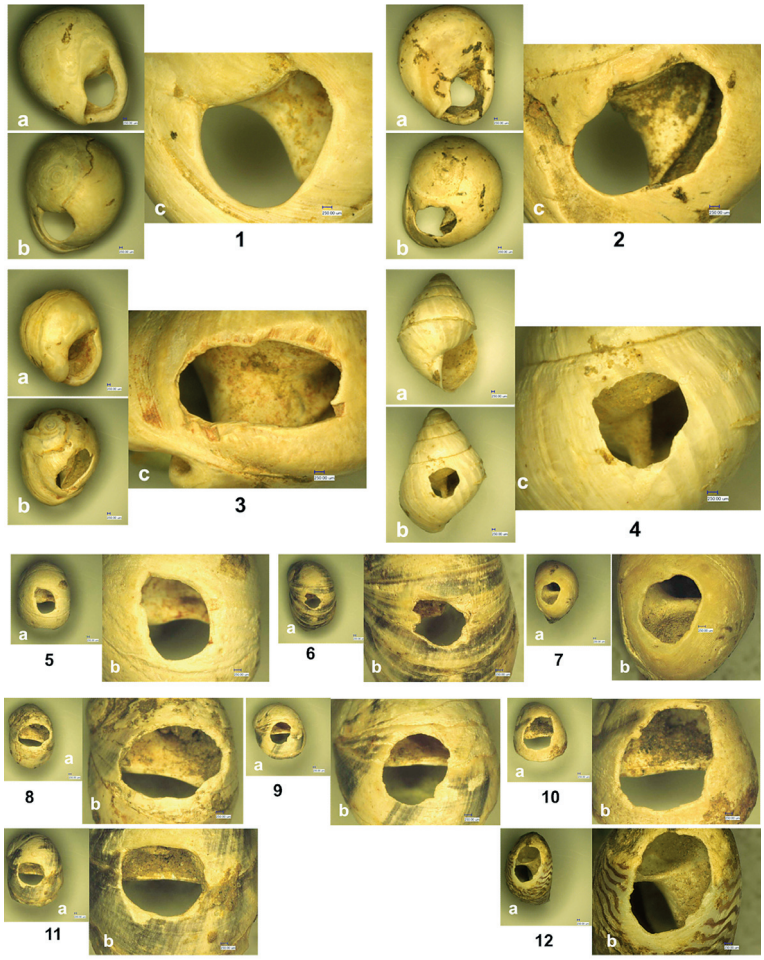

Figure 15 - Perforated shells of Cyclope neritea (1-3), Zebrina detrita (4), Theodoxus transversalis and T. danubialis (5-12), Epipalaeolithic layer II. a -aperture; b-perforation position; c-detail of perforation (a-b=x20; c=x50) (modified after M. (Sandu) Mărgărit, 2008)

Figure 15 - Coquilles perforées de Cyclope neritea (1-3), Zebrina detrita (4), Theodoxus transversalis et T. danubialis (5-12), couche Épipaléolithique II. a – aperture ; b – emplacement de la perforation ; c – détail de la perforation (a, b = x20 ; c = x50) (modifié d'après M. (Sandu) Mărgărit, 2008).

Turcului and those on bones discovered in the Settecannelle site, Lazio, Italy (fig. 16/4). The example chosen for exemplification is suggestive and indeed shows resemblances with the decorations noted at Cuina Turcului, but only with those in level I. The Settecannelle fragment of engraved bone, offered as an example, comes from layer 8, dated 10.000 BP, and is therefore 2.000 years younger than the Cuina Turcului items.

The art objects from the Cuina Turcului Epigravettian layer I excel through the richness of decoration and the rational manner of covering the space. In terms of the decoration on the upper surface, many of them are plain examples which comply with the concepts of organisation of the decorated space or field, namely symmetry and division of the plan into registers, by promoting either the axial or the transversal symmetry. The delimitation of registers by means of parallel lines is a frequently used method which highlights an area of the field, while the graphical elements inside these series of lines that are generally not closed at the extremities, the transverse hachures shaped like ladders, are types of decoration (Sauvet 1987).

What truly distinguishes the linear decorations from the Epigravettian layer I of Cuina Turcului is the doubling of lines, which form well-individualised series executed with much firmness, often maintaining their parallelism to perfection, traced deep, most of the times with U-shaped profile. These genuinely original features particularise the Iron Gates area in the European Epigravettian context and brings significant contributions in terms of defining issues of social geography of this age and of the extent to which the existence of a different style may represent an argument in describing a social group with certain distinct particularities (Conkey 1987). This trait of parallel lines incised on bone and antler blanks of Cuina Turcului was noted only by V. Boroneanț in 1972 and was surprisingly reiterated much later, in 2000, although it is indeed a distinguishing feature of this settlement.

The aspect of this decoration, dominated by deep double lines, executed with much talent by maintaining parallelism, the way in which the engraved space is covered etc. are defining elements of the original style of the Cuina Turcului Epigravettian layer I, which might stand out as a self-contained facies, under the name of *Clisurean*. This means we believe that the attempt to attribute the two layers of Cuina Turcului to a unique "new culture" called the "Clisurean culture" (Nicolăescu-Plopșor *et al.* 1965 - p. 408) should be confined only to layer I of Cuina Turcului, defined as an Epigravettian layer.

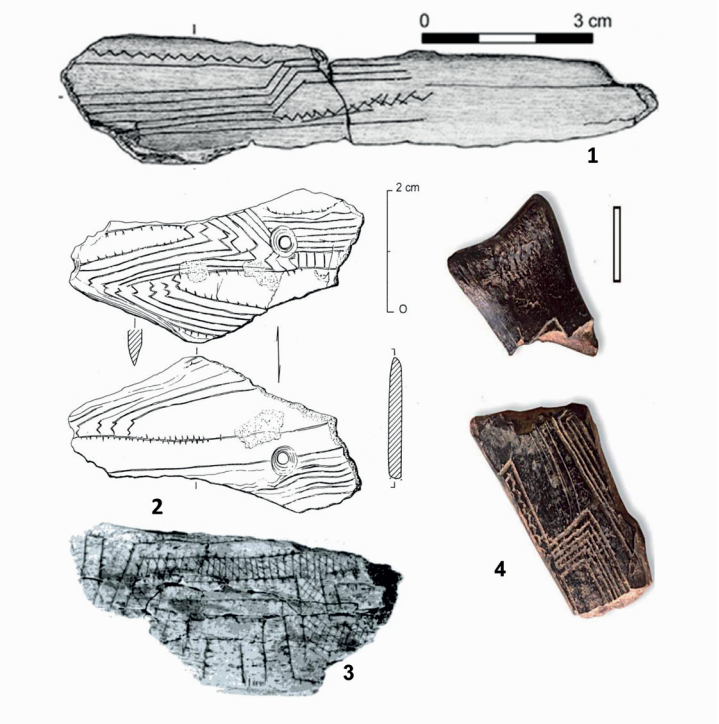

Figure 16 - Geometric decoration. 1-engraved bone from the Continenza Cave; 2 - Azilian pendant from the Moulin Cave of Troubat-en-Barousse (Hautes-Pyrénées); 3 - engraved bone from the Polesini Cave (Italy); 4 - engraved bone from the Settecannelle Cave (1 – after P. Astuti, R. Grifoni Cremonesi 2012; 2 - after M. Barbaza, C. Fritz, M.-P. Pomies 1998; 3 - after A. Radmili 1957; 4 - after D. Borić, E. Cristiani 2016).

Figure 16 - Décor géométrique. 1 – os gravé de la grotte de Continenza ; 2 – pendentif azilien de la grotte de Moulin de Troubat-en-Barousse (Hautes-Pyrénées) ; 3 – os gravé de la grotte de Polesini (Italie) ; 4 – os gravé de la grotte de Settecannelle (1 – d'après P. Astuti, R. Grifoni Cremonesi 2012 ; 2 – d'après M. Barbaza, C. Fritz, M.-P. Pomies 1998 ; 3 – d'après A. Radmili 1957 ; 4 – d'après D. Borić, E. Cristiani 2016).

This type of decoration in the form of double lines, so typical of the decorations on bone or deer antler, is hard to identify in other similar settlements belonging to the same chronological level with such intensiveness as in the Epigravettian layer I of the Cuina Turcului rock shelter. It timidly occurs on a cortex fragment of Riparo Tagliente, therefore on a different type of blank, close in age to those of Cuina Turcului, dating between 13.270 ± 170 B.P. (OxA-3532) and 12.650 ± 160 B.P. (OxA 3530) (Bertola *et al.* 2007).

In addition to aspects regarding the mobiliary art, the *Clisurean* facies is characterised by a significant Epigravettian tradition in terms of the features of the lithic tool. To some extent, the hunting economy relied on fishing-related occupations, as shown by a number of finds specific to such activities. Personal ornaments excel through the use of animal teeth; the variety of species (red deer, boar, bovines, wolf, beaver) and, with the only exception of a *Dentalium* specimen, the absence of mollusc shells are noteworthy. In this respect, the multitude of red deer teeth used as ornaments should be highlighted, given the fact that this animal is not part of the list of mammals recovered from the deposit in layer I. This assumes the existence of a remarkable Gravettian tradition of those communities. The lack of interest in mollusc shells is just as interesting if we consider the location of the site in the vicinity of the Danube.

We consider that the particular aspects of most of art objects and even of personal ornaments, which individualise the Epigravettian in the Cuina Turcului rock shelter not only in the Iron Gates gorges region but also over larger areas, form an original assemblage that may justify defining it under the name of the *Clisurean* facies.

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